

ABSTRACT

A sound reproduction system comprises a left and right speakers located in close proximity, and a sound processor which provides audio signals to the pair of speakers. The sound processor preferably derives a cancellation signal from the difference between the left and right channels. The resulting difference signal is scaled, delayed (if necessary), and spectrally modified before being added to the left channel and, in opposite polarity, to the right channel. The spectral modification to the difference channel preferably takes the form of a low-frequency boost over a specified frequency range, in order to restore the correct timbral balance after the differencing process. Additional phase-compensating all-pass networks may be inserted in the difference channel to correct for any extra phase shift contributed by the spectral modifying circuit. The technique may be used in a surround sound system.

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